

REMARKS

This is in full and timely response to the Office Action mailed on March 17, 2009. Reexamination in light of the following remarks is respectfully requested.

Claims 101-108 are currently pending in this application, with claim 101 being independent. *No new matter has been added.*

Reexamination in light of the following remarks is respectfully requested.

Rejection under 35 U.S.C. §103

Paragraph 3 includes a rejection of claims 101-103 and 105-108 under 35 U.S.C. §103 as allegedly being unpatentable over “Integrated systems of white LED visible-light communication power-line communication” (Komine) in view of Japanese Application Publication No. 2001-036592 (Kobayashi).

Paragraph 4 includes a rejection of claims 101-102 and 104-108 under 35 U.S.C. §103 as allegedly being unpatentable over “Integrated systems of white LED visible-light communication power-line communication” (Komine) in view of International Application Publication No. WO 01/63788 (Mensing).

Applicant, seeking review of the prematureness of the final rejection within the Final Office Action, respectfully requests reconsideration of the finality of the Final Office Action for the reasons set forth hereinbelow. See M.P.E.P. §706.07(c).

At least for the following reasons, if the allowance of the claims is not forthcoming at the very least and a new ground of rejection made, then a **new non-final Office Action** is respectfully requested.

These rejections are traversed at least for the following reasons.

Claims 101-108 - Claims 102-108 are dependent upon claim 101. Claim 101 is drawn to a broadcast system, comprising:

a semiconductor light-emitting source for lighting;

a power line that supplies electric power to the semiconductor light-emitting source;

a data modulator that modulates and multiplexes a plurality of pieces of data, superimposes the resulting plurality of pieces of data on an electric power waveform into a plurality of modulated pieces of data, and transmits the plurality of modulated pieces of data via the power line; and

a selector that selects one or more pieces of data to be transmitted in the form of light out of the plurality of modulated pieces of data on the power line; and

a superimposing means for superimposing a signal of the selected data onto a voltage to be applied to the semiconductor light-emitting source,

wherein the data selected by the selector is transmitted based on changes in light intensity or blinking of the semiconductor light-emitting source.

Komine - Pages 2-3 of the Office Action contend that Komine discloses:

a semiconductor light-emitting source for lighting (LEDs in Fig. 2);

a power line that supplies electric power to the semiconductor light-emitting light source (powerline in Fig. 2)

Nevertheless, page 3 of the Office Action concludes that Komine ***does not*** expressly disclose *a data modulator that modulates and multiplexes a plurality of pieces of data*,

superimposes the resulting plurality of pieces of data on an electric power waveform into a plurality of modulated pieces of data, and transmits the plurality of modulated pieces of data via the power line.

As a consequence, page 3 of the Office Action appears to conclude that Komine *fails* to disclose, teach, or suggest:

 multiplexes a plurality of pieces of data;

 plurality of pieces of data on an electric power waveform;

 a plurality of modulated pieces of data.

Page 8 of the Office Action *concur*s that *secondly, the Examiner respectfully notes that the standing rejection already recognizes that Komine does not teach these highlighted limitations.*

Instead, page 8 of the Final Office Action merely offers that “the standing rejection incorporates the teachings of additional prior art (i.e., Kobayashi or Mensing) to provide a combination(s) that does address these limitations.”

- ***Thus, the Office Action fails to show within Komine the presence of a data modulator that***
 - *modulates and multiplexes a plurality of pieces of data,*
 - *superimposes the resulting plurality of pieces of data on an electric power waveform into a plurality of modulated pieces of data, and*
 - *transmits the plurality of modulated pieces of data via the power line.*

Page 3 of the Office Action identified the BPF in Figure 2 of Komine as being a “selector”.

In response, page 1763 of Komine at section II.A. arguably discloses that:

The concept of easy system of the wiring for visible-light communication is shown in Fig.2. We assume that power-line modem is plugged into and power-line network is built. The power supply to which the signal was added is obtained from the existing power-line in the ceiling. In the LED lighting, the power-line is divided. One side is supplied to the **BPF** and the bias circuit, after being rectified by direct current as the drive power supply of each circuit. Another side takes off the waveform of AC 100 V (50 or 60 Hz) by letting **BPF** pass. That is, only the waveform of the transmitted signal is taken out. The taken signal is the AC waveform. Since LED passes only a direct current, the signal is biased. In the LED lighting, it responds to the waveform of this signal, and the power of light is changed. (The frequency to transmit, information is short enough to be humanly imperceptible, so that it does not affect function of lighting.) The light from the LED lighting is received at the mobile terminal. The signal is demodulated according to the power of light. In this way, this system is realizable with very easy composition.

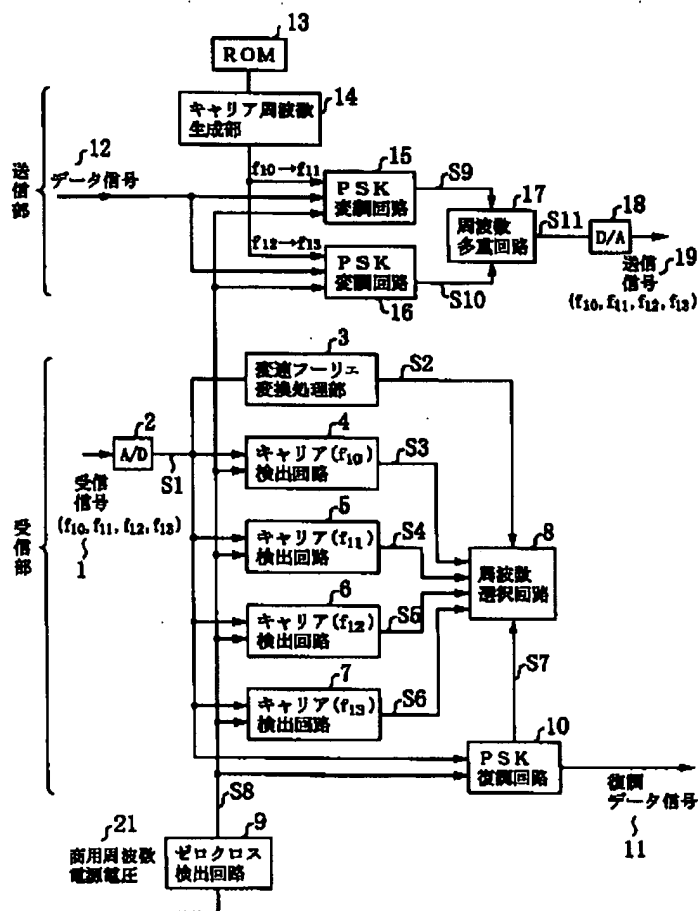
However, the Office Action *fails* to show the BPF of Komine as *selecting one or more pieces of data*.

Alternatively, page 3 of the Office Action concludes that Komine *does not* expressly disclose *a selector that selects one or more pieces of data to be transmitted in the form of light out of the plurality of modulated pieces of data on the power line*.

- *Thus, the Office Action fails to show within Komine the presence of a selector that selects one or more pieces of data to be transmitted in the form of light out of the plurality of modulated pieces of data on the power line.*

Kobayashi - Kobayashi has been provided for the features that have been concluded within the Office Action to have been absent from within Komine.

In response, Figure 2 of Kobayashi is provided hereinbelow:



- 1- Input Signal 1
- 2- A/D Converter 2
- 3- Fast Fourier Transform Processing Part 3
- 4- Carrier Detect Circuit 4
- 5- Carrier Detect Circuit 5
- 6- Carrier Detect Circuit 6
- 7- Carrier Detect Circuit 7
- 8- Frequency-Selective Circuit 8
- 9- Zero Cross Detector Circuit 9
- 10- PSK Demodulator Circuit 10
- 11- Demodulated Data Signal 11
- 12- Data Signal 12
- 13- ROM 13
- 14- Carrier Frequency Generation Part 14
- 15- PSK Modulation Circuit 15
- 16- PSK Modulation Circuit 16
- 17- Frequency Multiplexing Circuit 17
- 18- D/A Converter 18
- 19- Sending Signal 19
- 21- Commercial Source Voltage Waveform

As a perceived problem within the art, the "Description of the Prior Art" section of Kobayashi arguably describes the use of a *single frequency* during a time period to transmit a single data signal (Kobayashi at paragraph [0002]).

As a solution to the perceived problem within the art, the proposal offered by Kobayashi appears to disclose the transmission of a single data signal during a time period using two or more carrier frequencies (Kobayashi at paragraph [0010]).

Specifically, Kobayashi apparently discloses that the carrier frequency generation part which forms two or more carrier frequencies of the integral multiple of the fundamental frequency R0M 13 remembered 14 to be, 15 and 16 are PSK modulation circuits which become irregular about the data signal 12 by using two or more carrier frequencies f10, f11, f12, and f13 within the below-mentioned low noise with the output signal S8 of the zero cross detector circuit 9 (Kobayashi at paragraph [0021]).

The frequency multiplexing circuit for 17 adding output signal S9 of a PSK modulation circuit and S10, and performing frequency multiplexing-ization and 18 are the D/A converters which change the output signal S11 of the frequency multiplexing circuit 17 into an analog signal from a digital signal, 19 is the sending signal outputted from D/A converter 18 (Kobayashi at paragraph [0022]).

Recall, claim 101 of the present application includes a data modulator that:

- modulates and multiplexes a plurality of pieces of data,
 - superimposes the resulting plurality of pieces of data on an electric power waveform into a plurality of modulated pieces of data, and
 - transmits the plurality of modulated pieces of data via the power line.
- Nevertheless, Kobayashi fails to disclose, teach, or suggest the data signal 12 is “a plurality of pieces of data”.

As a consequence, a data modulator that *modulates and multiplexes* a plurality of pieces of data is absent from within Kobayashi.

- Moreover, Kobayashi fails to disclose, teach, or suggest that the D/A converter 18 superimposes the output signal S11 on an electric power waveform.

- *Additionally, Kobayashi fails to disclose, teach, or suggest the sending signal 19 being a plurality of modulated pieces of data.*

As a consequence, a data modulator that *superimposes the resulting plurality of pieces of data on an electric power waveform into a plurality of modulated pieces of data* is also absent from within Kobayashi.

- *Thus, Kobayashi fails to disclose, teach, or suggest a data modulator that*
 - *modulates and multiplexes a plurality of pieces of data,*
 - *superimposes the resulting plurality of pieces of data on an electric power waveform into a plurality of modulated pieces of data, and*
 - *transmits the plurality of modulated pieces of data via the power line.*

Furthermore, Kobayashi fails to disclose, teach, or suggest the sending signal 19 being superimposed onto the commercial source voltage waveform 21.

- *As a consequence, Kobayashi fails to disclose, teach, or suggest a selector that selects one or more pieces of data to be transmitted in the form of light out of the plurality of modulated pieces of data on the power line.*

Mensing - Mensing arguably discloses that referring now to FIG. 1, the communications system according to the principles of the invention is arranged in a logical star system wherein the headend device (HPD) communicates over two-way communications channels with the customer premise devices (CPDs) (Mensing at page 4, lines 8-11).

- *Nevertheless, Mensing fails to disclose, teach, or suggest a data modulator that modulates and multiplexes a plurality of pieces of data, superimposes the resulting plurality of pieces of data on an electric power waveform into a plurality of modulated*

pieces of data, and transmits the plurality of modulated pieces of data via the power line.

- *Mensing fails to disclose, teach, or suggest a selector that selects one or more pieces of data to be transmitted in the form of light out of the plurality of modulated pieces of data on the power line.*
- *Moreover, Mensing fails to disclose, teach, or suggest a superimposing means for superimposing a signal of the selected data onto a voltage to be applied to the semiconductor light-emitting source.*

Withdrawal of these rejections and allowance of the claims is respectfully requested.

Official Notice

There is no concession as to the veracity of Official Notice, if taken in any Office Action.

An affidavit or document should be provided in support of any Official Notice taken. 37 CFR 1.104(d)(2), MPEP § 2144.03. See also, *Ex parte Natale*, 11 USPQ2d 1222, 1227-1228 (Bd. Pat. App. & Int. 1989)(failure to provide any objective evidence to support the challenged use of Official Notice constitutes clear and reversible error).

Extensions of time

Please treat any concurrent or future reply, requiring a petition for an extension of time under 37 C.F.R. §1.136, as incorporating a petition for extension of time for the appropriate length of time.

Fees

The Commissioner is hereby authorized to charge any deficiency in fees filed, asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm).

The Commissioner is hereby authorized to charge all required fees, fees under 37 C.F.R. §1.17, or all required extension of time fees.

If any fee is required or any overpayment made, the Commissioner is hereby authorized to charge the fee or credit the overpayment to Deposit Account # 18-0013.

Conclusion

This response is believed to be a complete response to the Office Action.

Applicants reserve the right to set forth further arguments supporting the patentability of their claims, including the separate patentability of the dependent claims not explicitly addressed herein, in future papers.

For the foregoing reasons, all the claims now pending in the present application are allowable, and the present application is in condition for allowance.

Accordingly, favorable reexamination and reconsideration of the application in light of the remarks is courteously solicited.

If the Examiner has any comments or suggestions that could place this application in even better form, the Examiner is requested to telephone Brian K. Dutton, Reg. No. 47,255, at 202-955-8753.

Dated: May 15, 2009

Respectfully submitted,

By 

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